

OBSERVATIONS AT HONOLULU.

The station is at $21^{\circ} 18' N.$, $157^{\circ} 50' W.$ It is the Weather Bureau station Punahoa. (See fig. 2, No. 1, in the MONTHLY WEATHER REVIEW for July, 1902, page 365.)

Hawaiian standard time is 10° $30'$ slow of Greenwich time. Honolulu local mean time is 10° $31'$ slow of Greenwich.

Pressure is corrected for temperature and reduced to sea level, and the gravity correction, -0.06 , has been applied.

The average direction and force of the wind and the average cloudiness for the whole day are given unless they have varied more than usual, in which case the extremes are given. The scale of wind force is 0 to 12, or Beaufort scale. Two directions of wind, or values of wind force, or amounts of cloudiness, connected by a dash, indicate change from one to the other.

The rainfall for twenty-four hours is measured at 9 a. m. local, or 7.31 p. m., Greenwich time, on the respective dates.

The rain gage, 8 inches in diameter, is 1 foot above ground. Thermometer, 9 feet above ground. Ground is 43 feet, and the barometer 50 feet above sea level.

Meteorological Observations at Honolulu, July, 1902.

Date.	Pressure at sea level.	Temperature.	During twenty-four hours preceding 1 p. m. Greenwich time, or 1.30 a. m. Honolulu time.								Total rainfall at 9 a. m. local time.	
			Temperature.	Means.	Wind.		Sea-level pressures.					
					Prevailing direction.	Force.	Average cloudiness.	Maximum.	Minimum.			
			Dry bulb.	Wet bulb.	Maximum.	Minimum.	Dew-point.	Relative humidity.	Force.	Average cloudiness.	Maximum.	
1	*	29.99	76	70	88	75	65.7	67	2	3	30.05	
2	30.01	74	71.5	84	75	67.3	71	ne.	7-8	30.07	30.00	
3	29.99	76	71	82	73	69.7	80	ne.	3-4	30.05	29.97	
4	29.96	74	70	84	74	68.3	71	ne.	3	30.02	29.96	
5	29.94	75	70	83	74	68.0	75	ne.	4	30.01	29.94	
6	29.95	70	69	82	73	69.5	79	ne.	3-1	29.99	29.91	
7	30.00	74	70	84	68	68.7	81	ne.	1-2	30.04	29.96	
8	29.99	75	68.5	85	72	68.5	73	ne.	3-1	30.04	29.99	
9	29.94	76	70.5	84	74	67.3	70	ne.	3-1	30.02	29.95	
10	29.96	75	70	85	73	68.3	72	ne.	3-1	29.99	29.91	
11	29.97	77	70.5	86	73	68.7	73	se-ne.	2-0	30.01	29.95	
12	29.96	77	71	86	74	67.3	67	ene.	3	30.03	29.96	
13	29.93	73	69	84	75	68.0	75	ne.	2-3	30.00	29.94	
14	29.95	76	69.5	82	70	66.0	69	ne.	3-4	29.98	29.92	
15	29.95	75	69.5	81	72	67.0	72	ne.	3-4	30.00	29.95	
16	29.97	76	71	82	74	68.7	77	ne.	3-5	30.02	29.94	
17	29.97	75	70	84	73	67.0	69	ne.	3	30.02	29.94	
18	29.99	75	69.5	85	73	66.0	67	ne.	3-2	30.02	29.95	
19	29.99	75	70	84	71	67.5	70	ne.	3-4	30.02	29.97	
20	30.00	76	70.5	85	74	68.0	72	ne.	3-2	30.05	29.96	
21	30.02	74	70	85	73	68.0	72	ne.	3-1	30.05	29.99	
22	29.94	74	69	83	72	67.3	72	ne.	3	30.06	29.94	
23	29.89	74	70	68	82	66.0	71	ne.	3-1	29.95	29.85	
24	29.90	71	68	84	68	67.3	74	ne.	1-2	29.93	29.84	
25	29.95	78	71.5	85	69	67.0	70	se-ne.	1-3	29.96	29.86	
26	29.96	76	69	86	76	68.7	72	ne.	3-4	30.02	29.94	
27	29.93	71	69	82	76	67.5	75	ne.	3-1	30.00	29.93	
28	29.93	75	70	84	69	67.3	73	ne.	3	29.98	29.90	
29	29.95	71	70.3	84	74	67.5	73	ne.	3	30.00	29.95	
30	29.95	74	69.5	82	71	67.5	76	ne.	3	29.99	29.91	
31	29.95	70	69.3	84	71	68.0	76	ne.	3-1	29.99	29.93	
Sums..											2.87	
Means.	29.961	74.3	69.8	83.8	72.4	67.7	73		2.7	4.0	30.011	
Departure..	- .024					+1.5	+3.5		0.0		+1.07	

Mean temperature for July, 1902, $(6+2+9)+3=77.6$; normal is 77.1. Mean pressure for July, 1902, $(9+3)+2=29.973$; normal is 29.997.

* This pressure is as recorded at 1 p. m., Greenwich time. † These temperatures are observed at 9 a. m., local, or 4.31 p. m., Greenwich time. ‡ These values are the means of $(6+9+2+9)+4$. § Beaufort scale.

GENERAL SUMMARY FOR JULY, 1902.

Honolulu.—The water in artesian wells fell during the month from 33.50 to 33.40 feet above mean sea level. July 31, 1901, it stood at 33.00. The average daily mean sea level for the month was 9.86 feet, 10.00 representing the assumed annual mean. Trade wind days, 29 (3 of north-northeast); normal number for this month, 29. Average force of wind (during daylight), Beaufort scale, 2.7. Cloudiness, in tenths of sky, 4.0; normal, in tenths of sky, 4.0.

Approximate percentages of district rainfall as compared with normal: Hilo, 150 per cent; Hamakua, 50; Kohala, 82; Waimea, 30; Kona, 180; Kau, no report arrived; Puna, 120; Maui, very variable from 0 to 300, probable average, 100; Oahu, 150, varying from 100 to 200 and over; Kauai, 120.

Mean temperatures: Pepeekeo, Hilo district, 100 feet elevation, mean maximum, 79.4° ; mean minimum, 70.6° ; Waimea, Hawaii, 2,730 elevation, 77.3° and 65.1° ; Volcano House, 4,000 elevation, 71.6° and 54.3° ; Kohala, 521 elevation, 79.9° and 68.8° ; Waikaoa, Kula, Maui, 2,700 elevation, 84.1° and 61.7° ;

Ewa Mill, 50 elevation, 85.4° and 70.4° ; W. R. Castle, Honolulu, 50 elevation, highest 90° , lowest 69° , mean 77.9° .

Ewa Mill mean dew point, 67.9° ; mean relative humidity, 71.6 per cent; Kohala, Dr. B. D. Bond, mean dew point, 68.0° ; mean relative humidity, 80.0 per cent.

Heavy surf, 1st to 4th, 15th to 30th. Earthquake, Pepeekeo, Hilo, reports 15th, 12:45 p. m. Thunder and lightning, Hawaii, 16th; lightning to north of Oahu, 24th, evening. Trace of snow still visible on Mauna Kea. "Afterglow" often very marked, but not as bright as in previous month.

RECENT PAPERS BEARING ON METEOROLOGY.

W. F. R. PHILLIPS, in charge of Library, etc.

The subjoined titles have been selected from the contents of the periodicals and serials recently received in the library of the Weather Bureau. The titles selected are of papers or other communications bearing on meteorology or cognate branches of science. This is not a complete index of the meteorological contents of all the journals from which it has been compiled; it shows only the articles that appear to the compiler likely to be of particular interest in connection with the work of the Weather Bureau:

Science. New York. Vol. 16.

Elder, E. Waite. Iridescent Clouds. P. 196.

Rotch, A. Lawrence. The International Aeronautical Congress. Pp. 296-301.

Scientific American Supplement. New York. Vol. 54.

Dexter, E. G. The Physiological Effects of Diminished Air Pressure. P. 22291.

Pearson's Magazine. London. Vol. 14.

James, T. E. Freezing Caverns. Pp. 122-124.

Electrical World and Engineer. New York. Vol. 40.

Guarini, Emile. Wireless Telegraphy. Pp. 165-169.

Geographical Journal. London. Vol. 20.

Cornish Vaughan. On Snow-waves and Snow-drifts in Canada, with Notes on the "Snow-Mushrooms" of the Selkirk Mountains. Pp. 137-175.

Nature. London. Vol. 66.

Herschel, A. S. Heights of Sunset After-gloves in June, 1902. Pp. 294-296.

Shaw, W. N. Hann's Meteorologie. [Note on Lehrbuch der Meteorologie, by Julius Hann.] P. 337-338.

Stewart, Charles. Earthquake of May 28 at the Cape, and coincident Meteorological Effects. Pp. 369-370.

Baddeley, John. Colours between Clouds at Sunset. P. 370.

Hall, W. H. A Tripartite Stroke of Lightning. P. 370.

Bryan, G. H. Sunset Effects. P. 390.

Pace, S. Sunset Effects. P. 390.

— Royal Society Report on the West Indian Eruptions. Pp. 402-406.

Popular Science Monthly. New York. Vol. 51.

Ward, Robert DeC. A Year of Weather and Trade in the United States. Pp. 439-448.

Engineering News. New York. Vol. 48.

— A study of the Southern River Floods of May and June, 1901. [Abstract of E. W. Myers' report.] Pp. 102-104.

Proceedings of the Royal Society. London. Vol. 70.

Marconi, G. A Note on the Effect of Daylight upon the Propagation of Electromagnetic Impulses over Long Distances. Pp. 344-347.

Brown, Horace T. and Escombe, F. The Influence of Varying Amounts of Carbon Dioxide in the Air on the Photosynthetic Process of Leaves and on the Mode of Growth of Plants. Pp. 397-413.

Farmer, J. Bretland and Chandler, S. E. On the Influence of an Excess of Carbon Dioxide in the Air on the Form and Internal Structure of Plants. Pp. 413-423.

Anderson, Tempest. Preliminary Report on the Recent Eruption of the Soufrière in St. Vincent, and of a Visit to Mont Pelée, in Martinique. P. 423-445.

Cave-Brown-Cave, F. E. and Pearson, Karl. On the Correlation between the Barometric Height at Stations on the Eastern Side of the Atlantic. P. 465-470.

Quarterly Journal of the Royal Meteorological Society. London. Vol. 28.

— The State of the Ice in the Arctic Seas, 1901. Pp. 157-158.

Wilson-Barker, D. Clouds. Pp. 159-167.

— Lightning Photographs. Pp. 167-168.

— Sound Signals and Weather. [Note on article by E. Price Edwards.] P. 173.

— Rainfall at San Fernando, Spain. P. 211.

- The Barograph Trace during the Typhoon, August 2-3, 1901. [Letter from Louis Froc.] Pp. 212-213.
 — Cumulus Clouds formed by Smoke. [Note by Henry Mellish.] P. 214.
- Journal of the Franklin Institute. Philadelphia. Vol. 154.*
 — Popular Errors in Meteorology. P. 192.
- Proceedings of the American Philosophical Society. Philadelphia. Vol. 41.*
 Bryant, Henry G. Drift Casks in the Arctic Ocean. Pp. 154-161.
- Scientific American. New York. Vol. 87.*
 — The New Whipple Temperature Indicator for use with Platinum Thermometers. P. 69.
 — The Amount of Water used in Irrigation. [Note on the Report of Irrigation Investigations, by the Office of Experiment Stations, U. S. Department of Agriculture.] P. 101.
- Collins, A. Frederick. Electrical Resonance and its Relation to Syntonic Wireless Telegraphy. Pp. 136-137.
- Philosophical Magazine. London. 6th series. Vol. 4.*
 Zettwuch, Giuseppe. Researches on the Blue Colour of the Sky. Pp. 199-202.
- Thomson, J. J. On some of the Consequences of the Emission of Negatively Electrified Corpuscles by Hot Bodies. Pp. 253-262.
- Annales de Chimie et de Physique. Paris. Tome 26.*
 d'Arsonval. L'air liquide. Pp. 433-460.
- Compan, Paul. Essai sur le pouvoir refroidissant de l'air et sur les lois du rayonnement. Pp. 488-574.
- Comptes Rendus de l'Académie des Sciences. Paris. Tome 135.*
 Henriet, H. Sur une nouvelle vapeur organique de l'air atmosphérique. Pp. 101-103.
- de Moldrey. Phénomènes observés à Zi-Ka-Wei (Chine) lors de l'éruption de la Martinique. P. 322.
- Annuaire de la Société Météorologique de France. Paris. 50me Année.*
 Maillet, Edmond. Sur la prévision des débits minima des sources de la Vanne. Pp. 109-114.
- Marchand, E. Sur les altitudes des nuages inférieurs et supérieurs, et sur la constitution des nuages inférieurs dans la région des Pyrénées voisine du Pic-du-Midi. Pp. 114-119.
- Ciel et Terre. Bruxelles. 22me Année.*
 Lancaster, A. Un intéressant phénomène; les refroidissements du milieu de juin depuis vingt ans. Pp. 231-233.
- Very, F. W. Un cycle cosmique. Pp. 233-241.
- Sieberg, August. Un exemple de mouvement tourbillonnaire dans les cumulus. P. 241-246.
- Dobrowolski, A. Note sur les systèmes de nuages. Pp. 267-276.
- L., V. D. La végétation des régions arctiques et les influences atmosphériques. Pp. 295-300.
- Lancaster, A. Le bolide du 13 juillet. Pp. 308-309.
- La Nature. Paris. 30me Année.*
 Garcin, J. Les décharges atmosphériques. Pp. 154-155.
- Garcin, J. Déformation du disque solaire. Pp. 162-163.
- L'Aéophile. Paris. 10me Année.*
 Cousteau, —. Remarques sur la perméabilité nasale. Pp. 165-166.
- Farman, Maurice. Voyage aérien du 5 juin 1902. Pp. 166-167.
- Gaea. Leipzig. Vol. 33.*
 — Die Zunahme der Blitzschläge. Pp. 521-535.
- Eine Wärmere Luftströmung in 10 bis 15 kilometer Höhe. Pp. 543-548.
- Himmel und Erde. Berlin. 14 Jahrg.*
 Foerster, August. Die dritte Tagung der Internationalen Kommission für wissenschaftliche Luftschiffahrt. Pp. 449-460.
- Annalen der Hydrographie. Hamburg. 30 Jahrg.*
 — Fehler in der Schätzung der Windrichtung und Windstärke auf dampfern. Pp. 371-382.
- Meyer, H. Der Orkan im Indischen Ozean im Mai 1902. Verlust des dampfers "Ehrenfels." Pp. 382-390.
- Annalen der Physik. Leipzig. 4 Folge. Band 9.*
 Grützner, P. Ueber das Mundbarometer. Pp. 238-242.
- Physikalische Zeitschrift. Leipzig. 3 Jahrgang.*
 Caspari, W. Beobachtungen über Elektrizitätszerstreuung in verschiedenen Bergeshöhen. Pp. 521-525.
- Das Wetter. Berlin. 19 Jahrgang.*
 Assmann, Richard. Die Erforschung der höheren Luftsichten und die Wetterprognose. Pp. 145-153.
- Börnstein, R. Die Verlegung des wettertelegraphischen Dienstes auf eine frühere Stunde. Pp. 153-156.
- Stentzel, Arthur. Vulkanische Dämmerungs-Erscheinungen. Pp. 156-162.
- Meteorologische Zeitschrift. Wien. Band 19.*
 Monné, A. J. Mittlere Bewölkung zu Utrecht und Uebersicht der Gewitter im Königreich der Niederlanden. Pp. 297-302.
- Draemert, F. M. Weitere Beiträge zum Klima von Recife (Pernambuco). Pp. 302-307.
- Draemert, F. M. Das Klima von Parahyba do Norte. P. 307-311.
- Die Resultate der meteorologischen Beobachtungen auf dem Mont Ventoux in den Jahren 1898-1900. Pp. 311-312.
- Hann, J. Häufigkeit des Hagels zu Paris. Pp. 312-313.
- Seeliger, H. Ueber das Zodiakallicht. P. 313.
- Wiechert, E. Polarlicht-Beobachtungen in Göttingen. Pp. 315-316.
- Kesslitz, W. Magnetische Störungen in Pola während der Eruption des Mont Pelé am 8 Mai 1902. Pp. 316-317.
- Meteorologische Beobachtungen in Mozambique. P. 317.
- Tod durch Blitzschlag in den Vereinigten Staaten. Pp. 317-319.
- Ein Höhenobservatorium I. Ordnung in Japan. P. 319.
- Temperatur und Eisverhältnisse des Nordatlantischen Oceans im Frühling u. Frühsommer 1902. P. 319.
- Riegel, A. Die Gewitterperiode 1901 in Kalocsa nach den Blitzdiagrammen des Schreiber'schen Registrators. Pp. 320-322.
- S. Figee über Regenfall zu Batavia. Pp. 322-324.
- Forschungen auf dem Ben Nevis. P. 324-325.
- Der Mai 1902 auf dem Sonnblückgipfel. P. 325.
- Meteorologische Beobachtungen an der Südwestküste von Afrika. P. 325.
- Gautier, R. Meteorologische Beobachtungen, angestellt an den Fortifikationen von Saint Maurice im Jahre 1900. P. 326.
- Zum Klima von Bonneville. P. 326.
- Witterung und Ernteertrag in Sachsen. P. 326.
- Zur Frage über die Aussendung von Hertz'schen Strahlen durch die Sonne. Pp. 327-328.
- Erklärung verschiedener Himmelsscheinungen durch die Hertz'schen Wellen. Pp. 328-329.
- Die Hertz'schen Wellen bei Gewittern. Pp. 329-330.
- Girschner, M. Regen- und Lufttemperaturbeobachtungen zu Messen auf Ponape (Ost-Karolinen). Pp. 330.
- Wiebe, H. F. and Hebe, P. Ueber das Verhalten der Aneroide bei tiefen Temperaturen. P. 330-332.
- Die Ankunftszeiten der Vögel im Frühjahr. P. 332.
- Wolfer, A. Ueber die Existenz, die Vertheilung und die Bewegung der wahrscheinlichen Hauptcentra der Sonnenaktivität. Pp. 332-334.
- Das Spektrum des Blitzes. Pp. 334-335.
- Ueber einen photographischen Apparat zur genauen Analyse des Blitzes. P. 335.
- Kugelblitzbeobachtung. P. 335.
- Nijland, A. A. Ueber den grünen Strahl bei Auf- und Untergang der Sonne. Pp. 335-336.
- Der "grüne Strahl" der untergehenden Sonne. P. 336.
- Taudin-Chabot, J. J. Der "grüne Strahl." P. 337.
- Die Theorie des "grünen Strahls." P. 337.
- Regenperioden und Monddeklination. P. 338,
- Meteorologische Beobachtungen in Kamerun. P. 338.
- Okada, T. Ueber die Evaporationskraft des Föhn. P. 339.
- Temperatur der Sonne. P. 342.
- Wolfer, A. Provisorische Sonnenflecken-Relativzahlen für das II. Quartal 1902. P. 343.
- Peterman's Mittheilungen. Gotha. Vol. 6.
- Deckert, Emil. Martinique und sein Vulkanismus. Pp. 133-136.
- Bullettino Mensuale, Società Meteorologica Italiana. Torino. Serie 2. Vol. 22.
- Lera, Boggio. Sui miei apparecchi registratori e segnalatori del temporali. Pp. 19-24.
- Buti, Giuseppe. Sull'elettricità atmosferica. P. 5-14.
- Mittheilungen aus den Deutschen Schutzgebieten. Berlin. Band 15.
- Ergebnisse der Regenmessungen an der Station Kete-Kratyl in den Jahren 1900 und 1901. P. 31.
- Ergebnisse der meteorologischen Beobachtungen in Kpeme. Pp. 32-33.
- Von Danckelman, A. Resultate der meteorologischen Beobachtungen in Swakopmund in Jahre 1901. Pp. 90-95.

THE INTERNATIONAL AERONAUTICAL CONGRESS AT BERLIN.

By A. LAWRENCE ROTCH, Director of the Blue Hill Meteorological Observatory, dated September 4, 1902.

An International Aeronautical Congress was held at Berlin May 20 to 24, 1902, on the occasion of the third meeting of the International Committee for Scientific Aeronautics, appointed by the Paris Meteorological Conference of 1896. Of this committee there were present the president, Prof. Dr. Hergesell, of Strasburg, Prof. Dr. Assmann and Mr. Berson, of Berlin, General Rykatchef and Colonel Kowanko, of St. Petersburg, Professor Cailletet and M. Teisserenc de Bort, of Paris, and the writer, who is the American member. There were also present at the Congress, by special invitation, about one hundred military and civil aeronauts and representatives of meteorological institutions, the writer representing the United States Weather Bureau by request of its chief.

The opening of the Congress in the great hall of the Reichs-